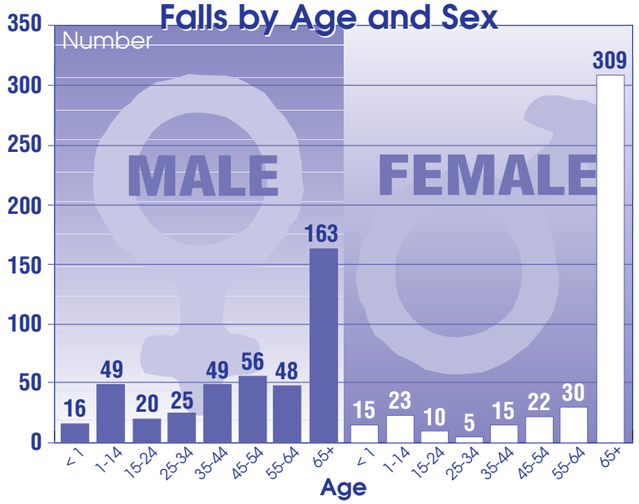
Females are less likely than males to suffer a fall related head injury for all age groups through age 64. Of the total traumatic brain injuries due to falls, 55.2 percent were from the age group 65 years old and older. Of the 429 females who suffered a head injury due to a fall, 72.0 percent were 65 years old or older, compared to 38.3 percent of the 426 males.

Approximately 3.9 percent of the accidental falls causing a head injury were work related.

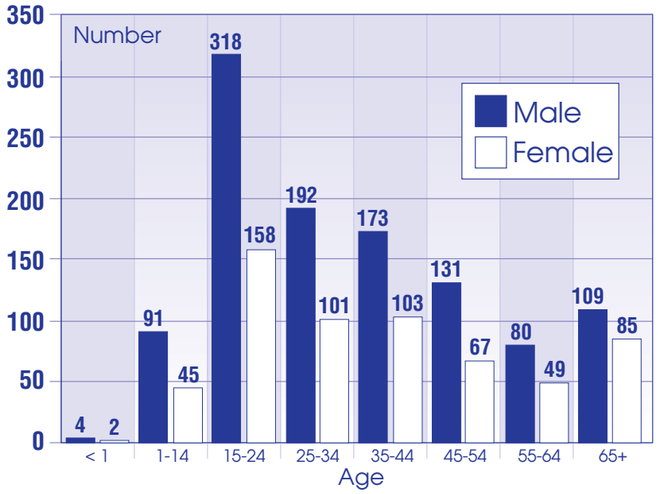
Of the 1,098 males who were involved in a motor vehicle accident, 29.0 percent were ages 15 to 24 years compared to 17.5 percent in ages 25 to 34 years. These two age groups accounted for 46.5 percent of the total motor vehicle injuries. For both males and females, there were more injuries (27.9 percent) in the 15 to 24 year age group than any other group.

Approximately 1.6 percent of the total motor vehicle accidents was work related. Of the total head injuries from motor vehicle traffic accidents, 8.8 percent resulted in a severe brain injury; 29.0 percent was classified as moderate; 42.3 percent was classified as mild; and the severity for 19.9 percent was undetermined.

Falls by Age and Sex



Motor Vehicle Crashes by Age and Sex



When all cases were included, 38.2 percent of the individuals with severe brain injuries were hospitalized more than seven days, compared to 35.8 percent of the individuals with injuries considered to be moderate, and 15.4 percent for those with mild injuries. For cases where severity was undetermined, 17.9 percent were hospitalized more than seven days.

When individuals who died are excluded from the analysis, 91.3 percent of people with severe brain injuries were hospitalized more than seven days, while the percent of individuals with lesser injuries showed little change.

Approximately 54 percent of the cases with hospital stays of more than 7 days were considered to have moderate brain injuries.

The length of stay could be affected by other injuries that occurred during the accident. The severity index by itself should not be used as a predictor or indicator of length of stay.

Severity of Injury by Length of Stay

			Severe		Moderate		Mild		Undetermined	
Length of Stay	Total	Died	Total	Died	Total	Died	Total	Died	Total	Died
Less than 24 hrs.	120	109	62	61	23	13	3	3	32	32
1 Day	553	59	40	40	118	13	287	4	108	2
2 Days	533	30	16	16	165	10	247	2	105	2
3 Days	446	17	11	8	161	7	184	1	90	1
4 Days	295	15	8	7	110	8	116	0	61	0
5 Days	210	9	9	8	90	1	75	0	36	0
6 Days	173	6	4	4	74	2	63	0	32	0
7 Days	119	7	5	4	54	2	39	1	21	0
8 to 14 Days	450	34	27	15	232	13	130	4	61	2
15 to 21 Days	161	11	20	4	96	4	26	0	19	3
22 to 28 Days	89	4	18	1	50	3	12	0	9	0
29 Days or more	130	7	31	3	66	4	16	0	17	0
TOTAL	**3279**	**308**	**251**	**171**	**1239**	**80**	**1198**	**15**	**591**	**42**

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Tennessee Traumatic Brain Injury

2001
July - December

A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Tennessee Department of Health
Bureau of Health Informatics
Health Statistics and Research
July - December 2001

Introduction

The enabling legislation establishing the traumatic brain injury registry was signed into law in May, 1993. As written, the initial legislation prohibited health care providers from reporting case information without written consent of the patient. An amendment was passed in May, 1996 resolving this issue. Data collection officially began with patients discharged during 1996. The hospitals report information on inpatients, with specific ICD-9 CM diagnosis codes, whose admission and discharge dates are different (where length of stay was 24 hours or more) and for those individuals who died. Patients seen in emergency rooms who were sent home the same day or length of stay was less than 24 hours are not included in the registry.

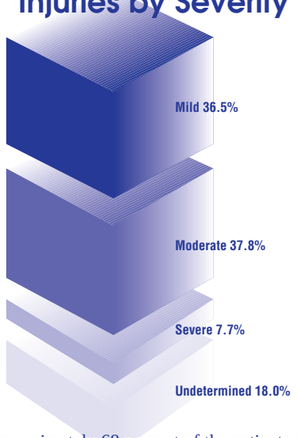
A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Based on the ICD-9-CM diagnosis codes, 36.5 percent of all patients experienced a "mild" injury. The injuries considered "moderate" made up 37.8 percent while 7.7 percent were considered "severe". Five hundred ninety-one (591) cases, or 18.0 percent had an insufficient clinical description and the severity for these cases was undetermined.

The severity index is based on the clinical diagnosis of the injury.

Approximately 75 percent of the patients (excluding the patients that died) were discharged for home care requiring non-skilled or some degree of skilled assistance. This indicates a tremendous burden on the families and communities of the brain injured survivors.

Injuries by Severity



Approximately 68 percent of the patients with a severe traumatic brain injury died. This category represents 55.5 percent of the total patients that died.

For patients with a moderate brain injury (excluding deaths) 67.0 percent were discharged for home care requiring non-skilled or some degree of skilled assistance. Excluding deaths, 13.6 percent were discharged to residential facilities with or without skilled nursing services and 14.8 percent to an inpatient rehabilitation facility.

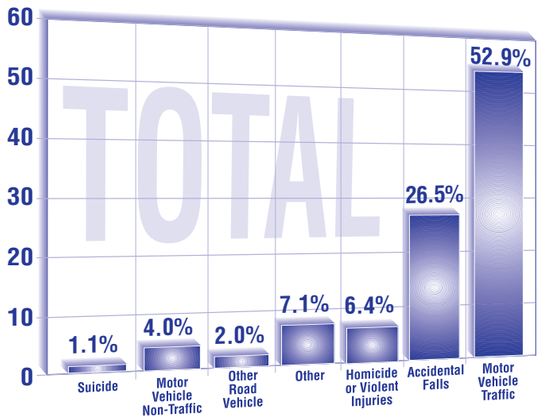
Excluding deaths, 84.9 percent of the patients with a mild brain injury were discharged to home care requiring non-skilled or some degree of skilled assistance.

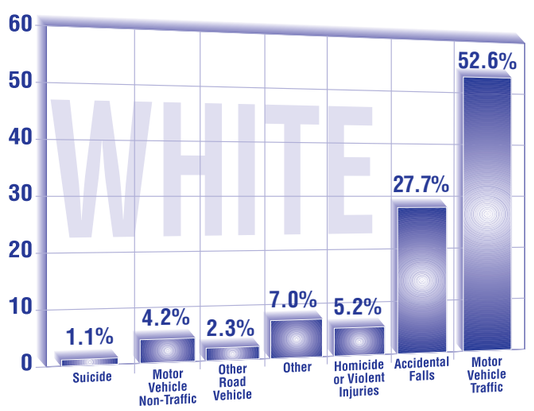
An external cause of injury permits the classification of environmental events, circumstances, and the conditions as the cause of injury. An external cause of injury was reported for 98.4% (3,226) of the 3,279 persons treated in Tennessee. The data presented by race represents 2,750 white and 330 black cases.

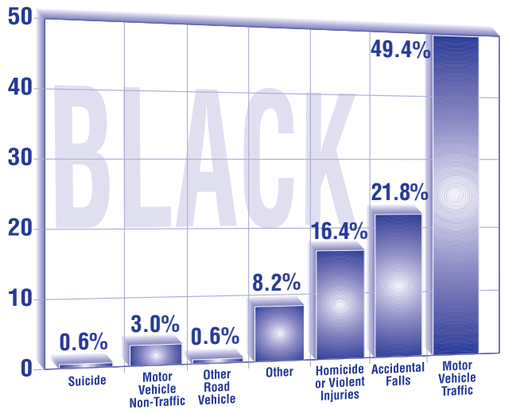
The leading cause of traumatic brain injuries, 52.9 percent (includes only cases with external cause of injury reported) was motor vehicle traffic accidents. Accidental falls accounted for 26.5 percent, homicide or violent deaths accounted for 6.4 percent injuries, and other accidents for 7.1 percent of the total.

For whites, the leading cause of traumatic brain injury was motor vehicle traffic accidents with 52.6 percent. The second leading cause of injury was accidental falls with 27.7 percent. The third leading cause was other accidents at 7.0 percent.

The leading cause of head injury for blacks (49.4 percent) was motor vehicle traffic accidents. Accidental falls were the second leading cause of injury with 21.8 percent. The third leading cause of injury for blacks was homicide or violent injuries with 16.4 percent.







Hospital Discharge Status by Severity of Injury

Discharge Status	Total	Severe	Moderate	Mild	Undetermined
Transferred to acute care hospital	56	6	29	13	8
Home - self care	1,937	14	661	859	403
Home - requiring non-skilled assistance	157	2	48	100	7
Home health services or out patient rehab	144	1	68	45	30
Residential facility w/o skilled nursing	42	1	19	10	12
Residential facility with skilled nursing	251	26	139	53	33
Inpatient rehab facility	311	30	171	78	32
Patient died (may be due to other injuries)	308	171	80	15	42
Other	73	0	24	25	24
Total	3,279	251	1,239	1,198	591

Injuries by Age and Sex

For all ages except 65 and older, males are more likely to suffer a head injury than females. This is primarily due to traffic accidents. At age 65 and older, females experience more injuries due to falls. Further analysis of the data revealed that 22.0 percent of the (59) patients less than one year of age suffered a brain injury due to homicide or an injury purposely inflicted by other persons.